

**REMARKS/ARGUMENTS**

Claims 23, 25-39, and 44-46 are pending in this application. In this Amendment, Applicant AMENDS claim 45.

Applicant has amended claim 45 to change "signal" to "single" in response to the 35 U.S.C. § 112, first and second paragraph rejections, as discussed below. Applicant respectfully requests entry of this Amendment After Final Rejection because it complies with a requirement of form expressly set forth in the outstanding Office Action and because it places this application in better form for appeal by reducing the number of rejections. See 37 C.F.R. § 1.116 and MPEP § 714.13.

On page 2 of the outstanding Office Action, the Examiner rejected claim 45 under 35 U.S.C. § 112, first paragraph for allegedly failing to comply with the written description requirement, and on page 2 of the outstanding Office Action, the Examiner rejected claim 45 under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. The Examiner alleged that, because "a flat signal layer" is allegedly not described in the specification, the feature of "a flat signal layer" is unclear. As explained above, Applicant has amended claim 45 to recite "single" instead of "signal." Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections of claim 45 under 35 U.S.C. § 112, first and second paragraphs.

On page 3 of the outstanding Office Action, the Examiner rejected claims 23, 32-39, and 44-46 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. (U. S. 5,894,388) in view of Applicant's Admitted Prior Art (AAPA). On page 7 of the outstanding Office Action, the Examiner rejected claims 23, 25, 26, 36-39, 44, and 45 under 35 U.S.C. § 103(a) as being unpatentable over Edelman et al. (U.S. 2005/0174687) in view of AAPA. On page 11 of the outstanding Office Action, the Examiner rejected claims 27-29 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of AAPA further in view of Hirooka (U.S. 2003/0036025) (Hirooka '025). On page 12 of the outstanding Office Action, the Examiner rejected claims 30 and 31 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of AAPA and Hirooka '025 in view of Hirooka (JP 2004-127442) (Hirooka '442).

Applicant respectfully traverses the rejections of claims 23, 25-39, and 44-46.

Applicant's claim 23 recites:

A thin-film magnetic head substrate comprising:  
a ceramic base with a principal surface; and  
an undercoat film, which is made of an aluminum oxide and which covers the principal surface of the ceramic base, an electrical/magnetic transducer being provided on the undercoat film; wherein

the substrate further includes an intermediate layer between the principal surface of the ceramic base and the undercoat film;

**the intermediate layer** is made of a material other than the aluminum oxide, has been patterned so as to make a portion of the principal surface of the ceramic base contact with the undercoat film, and **has an opening where the electrical/magnetic transducer is not located;**

the ceramic base is a single monolithic layer arranged to be the bottom-most layer of the thin-film magnetic head substrate; and

in a region other than the opening of the intermediate layer, as viewed in a direction perpendicular to the principal surface of the ceramic base:

the intermediate layer is present between the undercoat film and the ceramic base; and

the undercoat film is not in contact with the ceramic base. (emphasis added)

In the paragraph bridging pages 3 and 4 of the outstanding Office Action, the Examiner alleged that Figs. 1 and 2 of Sato et al. teach this feature. The Examiner alleged that slider 12 of Sato et al. corresponds to the ceramic base as recited in Applicant's claim 23, that lower shield layer 2 of Sato et al. corresponds to the intermediate layer as recited in Applicant's claim 23, and that lower gap layer 3 of Sato et al. corresponds to the undercoat film as recited in Applicant's claim 23. On page 4 of the outstanding Office Action, the Examiner admitted that Sato et al. does not disclose that the slider 12 is ceramic. The Examiner alleged that AAPA teaches ceramic sliders.

The Examiner alleged that the area where the lower shield layer 2 of Sato et al. does not cover the slider 12 is an opening.

Applicant respectfully disagrees the Sato et al. teaches the feature of "the intermediate layer ... has an opening where the electrical/magnetic transducer is not located" as recited in Applicant's claim 23.

Sato et al. clearly fails to disclose that the lower shield layer 2 has an opening as recited in Applicant's claim 23. Figs. 1 and 2 of Sato et al. show that the lower shield layer 2 is a rectangular layer without any openings. The Examiner's interpretation that the area in which the lower shield layer 2 is not located defines an opening in the lower shield layer 2 is unreasonable because the Examiner has failed to give the claim term "opening" its ordinary and customary meaning as would have been understood by one of ordinary skill in the art. The first paragraph of MPEP § 2111.01(III) states, "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005) (en banc). One of ordinary skill in the art would have understood the ordinary and customary meaning of the claim term "opening" in the feature of "the intermediate layer ... has an opening where the electrical/magnetic transducer is not located" to mean an area within the boundaries of the intermediate layer in which a portion of the intermediate layer is not present or has been removed, which portion is surrounded by other portions of the intermediate layer.

Applicant has not acted as his own lexicographer by setting forth a definition of "opening" that is different from its ordinary and customary meaning. Paragraph [0090] of Applicant's substitute specification states, "If it is unknown where the alignment marks will be left, then the intermediate layer 2 needs to have a relatively big opening (i.e., an area where no intermediate layer 2 is present)." This portion of Applicant's substitute specification proves that Applicant has used the term "opening" in a manner consistent with its ordinary and customary meaning.

The Examiner alleged that the area where the lower shield layer 2 of Sato et al. does not cover the slider 12 is an opening. However, this area is not part of the lower shield layer 2 of Sato et al. or within the boundaries of the lower shield layer 2. Put another way, an area of the device of Sato et al. that is spaced from the outer boundaries of the lower shield layer 2 and has nothing to do with the structure of the lower shield layer 2 cannot be said to be an opening formed in the lower shield layer 2.

Thus, Sato et al. fails to teach or suggest the feature of “the intermediate layer ... has an opening where the electrical/magnetic transducer is not located” as recited in Applicant’s claim 23.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of AAPA.

In the paragraph bridging pages 7 and 8 of the outstanding Office Action, the Examiner alleged that Fig. 5 of Edelman et al. teaches the feature of “the intermediate layer ... has an opening where the electrical/magnetic transducer is not located” as recited in Applicant’s claim 23. The Examiner alleged that substrate 118 of Edelman et al. corresponds to the ceramic base as recited in Applicant’s claim 23, that lower pole 122 of Edelman et al. corresponds to the intermediate layer as recited in Applicant’s claim 23, and that insulator 134 of Edelman et al. corresponds to the undercoat film as recited in Applicant’s claim 23. On page 8 of the outstanding Office Action, the Examiner admitted that Edelman et al. does not disclose that substrate 118 is ceramic. The Examiner alleged that AAPA teaches ceramic sliders.

The Examiner alleged that the area where the lower pole 122 of Edelman et al. does not cover substrate 118 is an opening.

Applicant respectfully disagrees the Edelman et al. teaches the feature of “the intermediate layer ... has an opening where the electrical/magnetic transducer is not located” as recited in Applicant’s claim 23.

Edelman et al. clearly fails to disclose anywhere, including in Fig. 5, that the lower pole 122 has an opening as recited in Applicant’s claim 23. The Examiner’s interpretation that the area in which the lower pole 122 is not located defines an opening in the lower pole 122 is unreasonable because the Examiner has failed to give the claim term “opening” its ordinary and customary meaning as would have been understood by one of ordinary skill in the art. As is clearly seen in Fig. 5 of Edelman et al., the area in which the lower pole 122 is not located is not part of the lower pole 122 of Edelman et al. or within the boundaries of the lower pole 122. Put another way, an area of the device of Edelman et al. that is spaced from the outer boundaries

of the lower pole 122 and has nothing to do with the structure of the lower pole 122 cannot be said to be an opening formed in the lower pole 122.

Thus, Edelman et al. fails to teach or suggest the feature of “the intermediate layer ... has an opening where the electrical/magnetic transducer is not located” as recited in Applicant’s claim 23.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. § 103(a) as being unpatentable over Edelman et al. in view of AAPA.

The Examiner has relied upon Hirooka ‘025 and Hirooka ‘442 to allegedly cure various deficiencies in Sato et al. and AAPA. However, Hirooka ‘025 and Hirooka ‘442, applied alone or in combination with Sato et al., Edelman et al., and AAPA, fail to teach or suggest the feature of “the intermediate layer ... has an opening where the electrical/magnetic transducer is not located” in combination with the other features recited in Applicant’s claim 23.

Accordingly, Applicant respectfully submits that the prior art of record, applied alone or in combination, fails to teach or suggest the unique combination and arrangement of elements recited in claim 23 of the present application. Claims 25-39 and 44-46 depend upon claim 23 and are therefore allowable for at least the reasons that claim 23 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

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Reply to the Office Action dated March 31, 2011

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The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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